

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 4618 (1968): Grading for castor seeds for oil milling
[FAD 13: Oils and Oilseeds]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE



IS : 4618 - 1968

Indian Standard

GRADING FOR
CASTOR SEEDS FOR OIL MILLING

First Reprint SEPTEMBER 1984
(Incorporating Amendment No. 1)

UDC 633.853.55



© Copyright 1984

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Gr 2

July 1968

Indian Standard

GRADING FOR CASTOR SEEDS FOR OIL MILLING

Oils and Oilseeds Sectional Committee, CAFDC 5

Chairman

DR J. S. BADAMI

Representing

Swastik Oil Mills Ltd, Bombay

Members

SHRI V. A. PARIKH (Alternate to

Dr J. S. Badami)

DR K. T. ACHAYA

Regional Research Laboratory (CSIR),
Hyderabad

DR G. LAESHMNARAYANA (Alternate)

SHRI V. P. ANANTANARAYANAN Directorate of Marketing & Inspection (Ministry
of Food, Agriculture, Community Develop-
ment & Co-operation), Nagpur

SHRI V. CHANDRAMOULY (Alternate)

SHRI R. C. DAS GUPTA National Test House, Calcutta

SHRI K. C. MERTA (Alternate)

SHRI N. DESIKACHAR The Tata Oil Mills Co Ltd, Bombay

DR B. G. GUNDE (Alternate)

DR K. C. GULATI

Indian Agricultural Research Institute, New
Delhi; and Indian Council of Agricultural
Research, New Delhi

SHRI H. P. GUPTA

East India Oil Millers' Association, Calcutta

SHRI P. R. MUSSADI (Alternate)

DR G. S. HATTIANGDI

Hindustan Lever Ltd, Bombay

SHRI K. P. JAIN

Directorate of Sugar & Vanaspati (Ministry of
Food, Agriculture, Community Development
& Co-operation), New Delhi

SHRI F. G. T. MENEZES (Alternate)

DR S. M. KAJI

Italab Private Ltd, Bombay

SHRI J. C. DEY (Alternate)

(Calcutta)

SHRI S. S. HONAVAR (Alternate)

(Madras)

SHRI N. S. MAINI

Regional Office, Oilseeds Development (Ministry
of Food, Agriculture, Community Develop-
ment & Co-operation), Hyderabad

SHRI HARISH SETHI (Alternate)

DR B. D. NARANG

Central Committee for Food Standards (Minis-
try of Health & Family Planning), New
Delhi

SHRI D. S. CHADHA (Alternate)

(Continued on page 2)

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

(Continued from page 1)

<i>Members</i>	<i>Representing</i>
SHRI N. P. NOPANI	Bombay Oilseeds and Oils Exchange Ltd, Bombay
SHRI C. V. MARIWALA (<i>Alternate</i>)	
SHRI V. M. PAI	Godrej Soaps Private Ltd, Bombay
SHRI B. V. KANTAK (<i>Alternate</i>)	
SHRI S. S. RAMASWAMY	The Vanaspathi Manufacturers' Association of India, Bombay
DR H. G. R. REDDY	Directorate General of Technical Development, New Delhi
REPRESENTATIVE	Oil Technological Research Institute, Anantapur
SHRI RAM SHARMA	Solvent Extractors' Association of India, Bombay
SHRI P. P. SHARMA (<i>Alternate</i>)	
SHRI P. V. SHRIKANTA RAO	Khadi and Village Industries Commission, Bombay
SHRI P. V. GUJARATHI (<i>Alternate</i>)	
SHRI L. R. SUD	Ministry of Defence (R & D)
SHRI A. P. CHAKRAVERTY (<i>Alternate</i>)	
SHRI P. M. THOMAS	Central Warehousing Corporation, New Delhi
SHRI P. RAMDAS (<i>Alternate</i>)	
SHRI D. DAS GUPTA, Director (Chem)	Director General, ISI (<i>Ex-officio Member</i>)

Secretary

SHRI S. SUBRAHMANYAN
Deputy Director (Chem), ISI

Oilseeds Subcommittee, CAFDC 5 : 5

Convener

SHRI N. S. MAINI	Regional Office, Oilseeds Development (Ministry of Food, Agriculture, Community Develop- ment & Co-operation), Hyderabad
------------------	--

Members

SHRI HARISH SETHI (<i>Alternate to</i> Shri N. S. Maini)	
DR K. T. ACHAYA	Regional Research Laboratory (CSIR), Hyderabad
DR G. LAKSHMINARAYANA (<i>Alternate</i>)	
SHRI V. P. ANANTANARAYANAN	Directorate of Marketing & Inspection (Ministry of Food, Agriculture, Community Develop- ment & Co-operation), Nagpur
SHRI V. CHANDRAMOULY (<i>Alternate</i>)	
DR K. C. DANDONA	The East Asiatic Company (India) Pvt Ltd, Madras
SHRI S. L. GARG	Bengal Oil Mills' Association, Calcutta
DR B. G. GUNDE	The Tata Oil Mills Co Ltd, Bombay
DR G. S. HATTIANGDI	Hindustan Lever Ltd, Bombay
DR A. R. S. KARTHA	Indian Agricultural Research Institute, New Delhi
SHRI S. K. MAJUMDAR	Central Food Technological Research Institute, Mysore

(Continued on page 6)

Indian Standard

GRADING FOR CASTOR SEEDS FOR OIL MILLING

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 8 May 1968, after the draft finalized by the Oils and Oilseeds Sectional Committee had been approved by the Chemical Division Council and the Agricultural and Food Products Division Council.

0.2 Castor seeds are obtained in commerce from the plant *Ricinus communis* Linn., family Euphorbiaceæ.

0.3 Castor seeds are used in large quantities for the production of the oil. The oil is used in manufacture of Turkey red oil, cosmetics, drying oils, lubricants and perfumery chemicals; in leather treatment and for pharmaceutical purposes.

0.4 The specification for the oil obtained from castor seeds is covered in IS : 435-1966*.

0.5 The standard contains clause 5.1 which calls for agreement between the purchaser and the supplier.

0.6 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the methods of grading and the requirements for castor seeds for oil milling, along with the relevant methods of sampling and test.

2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions given under 2 of IS : 3579-1966‡ shall apply.

*Specification for castor oil (*revised*).

†Rules for rounding off numerical values (*revised*).

‡Methods of test for oilseeds.

3. GRADES

3.1 The material shall be of six grades, namely, Bold Grade 1, Bold Grade 2, Bold Grade 3, Small Grade 1, Small Grade 2 and Small Grade 3.

4. REQUIREMENTS

4.1 The material shall be derived from plant *Ricinus communis* Linn., family Euphorbiaceæ.

4.2 Bold castor shall not weigh more than 5 seeds per gram.

4.3 Small castor shall weigh more than 5 seeds per gram.

4.4 The material shall be clean and free from foreign matter and dirt.

4.5 The seeds shall not emit foul odour or found deformed due to moist conditions.

4.6 The material shall also comply with the requirements given in Table 1.

5. PACKING

5.1 The material shall be supplied in clean, dry, sound, single, new or unmended B-twill bags in merchantable condition, as agreed to between the purchaser and the supplier.

6. MARKING

6.1 The bags shall be marked with the name, grade and weight of the material, the year of the crop and the source of supply.

7. SAMPLING

7.1 Representative samples for the purpose of these tests shall be drawn as prescribed in IS : 4115-1967*.

8. TESTS

8.1 Tests shall be carried out as prescribed in IS : 3579-1966†.

8.2 **Quality of Reagents** — Unless specified otherwise, pure chemicals and distilled water (see IS : 1070-1960‡) shall be used in the tests.

NOTE — ' Pure chemicals ' shall mean chemicals that do not contain impurities which affect the results of analysis.

*Methods of sampling of oilseeds.

†Methods of test for oilseeds.

‡Specification for water, distilled quality (revised).

TABLE 1 REQUIREMENTS FOR CASTOR SEEDS FOR OIL MILLING

(Clause 4.6)

SL No.	CHARACTERISTIC	REQUIREMENT FOR						METHOD OF TEST, REF TO CL No. IN IS : 3579-1966*
		Bold Grade 1	Bold Grade 2	Bold Grade 3	Small Grade 1	Small Grade 2	Small Grade 3	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
i)	Damaged, slightly damaged, weevilled and dark seeds†, percent by weight, <i>Max</i>	10	17	24	10	17	24	4
ii)	Impurities‡, percent by weight, <i>Max</i>	2	4	6	2	4	6	
iii)	Other oilseeds§, percent by weight, <i>Max</i>	2	4	6	2	4	6	
iv)	Shrivelled, immature and dead, seeds percent by weight, <i>Max</i>	1	3	5	1	3	5	
v)	Total (i) to (iv) above, <i>Max</i>	12	22	30	12	22	30	—
vi)	Moisture content, percent by weight, <i>Max</i>	7	7	7	7	7	7	5.1
vii)	Oil content (on moisture-free basis), percent by weight, <i>Min</i>	45	45	45	42	42	42	5.2
viii)	Acid value of extracted oil, <i>Max</i>	3	5	8	3	5	8	5.3

*Methods of test for oilseeds.

†Discoloured seeds shall also be taken as dark seeds.

‡Stones, earth, straw or chaff, wheat, gram, millets, etc.

§Non-edible seeds, such as *MAHUA* and *NEEM* shall be treated as non-oleaginous.

(Continued from page 2)

<i>Members</i>	<i>Representing</i>
SHRI C. V. MARIWALA	Bombay Oilseeds and Oils Exchange Ltd. Bombay
SHRI S. N. MITRA	Botanical Survey of India, Calcutta
SHRI GORDHANDAS KARSANDAS NEGANDHI	The Spices & Oilseeds Exchange Ltd, Sangli
SHRI C. L. HENDRA (Alternate)	
SHRI V. A. PARIKH	Swastik Oil Mills Ltd, Bombay
SHRI PREMJI BHANJI	The Grain, Rice and Oilseeds Merchants' Association, Bombay
SHRI VASANJI LAKHAMSI (Alternate)	
SHRI B. N. SINGH	Indian Standards Institution, New Delhi
SHRI MADDI SUDERSANAM	The Central Organization for Oil Industry and Trade, Bombay
SHRI KRISHAN NARAIN (Alternate)	
SHRI P. M. THOMAS	Central Warehousing Corporation, New Delhi
SHRI P. RAMDAS (Alternate)	

Panel for Specifications for Oilseeds, CAFDC 5 : 5 : 1

Convener

SHRI V. P. ANANTANARAYANAN	Directorate of Marketing and Inspection (Ministry of Food, Agriculture, Community Development & Co-operation), Nagpur
----------------------------	---

Members

SHRI V. CHANDRAMOULY (Alternate to Shri V. P. Anantanarayanan)	
DR K. T. ACHAYA	Regional Research Laboratory (CSIR), Hyderabad
DR G. LAKSHMINARAYANA (Alternate)	

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	1 N = 1 kg.m/s ²
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1 c/s (s ⁻¹)
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²

INDIAN STANDARDS INSTITUTION

Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002

Telephones : 26 60 21, 27 01 31

Telegrams : Manakasthantha

Regional Offices:

Telephone

Western : Novelty Chambers, Grant Road

BOMBAY 400007

6 32 92 95

Eastern : 5 Chowringhee Approach

CALCUTTA 700072

27 50 90

Southern : C. I. T. Campus

MADRAS 500113

41 24 42

Northern : B69, Phase VII

S.A.S. NAGAR

8 78 26

(MOHALI) 160051

Branch Offices:

'Pushpak', Nurmohamed Shaikh Marg, Khanpur

AHMADABAD 380001

2 03 91

'F' Block, Unity Bldg. Narasimharaja Square

BANGALORE 560002

22 48 05

Gangotri Complex, Bhadbhada Road, T. T. Nagar

BHOPAL 462003

6 27 16

22E Kalpana Area

BHUBANESHWAR 751014

5 36 27

5-8-56C L. N. Gupta Marg

HYDERABAD 500001

22 10 83

R 14 Yudhister Marg, C Scheme

JAIPUR 302005

6 98 32

117/418 B Sarvodaya Nagar

KANPUR 208005

4 72 92

Patliputra Industrial Estate

PATNA 800013

6 28 08

Hanlex Bldg (2nd Floor), Rly Station Road

TRIVANDRUM 685001

32 27